

Quality of Life of Marijuana Users and Factors Associated with Marijuana Use: The Arkansas Marijuana Study



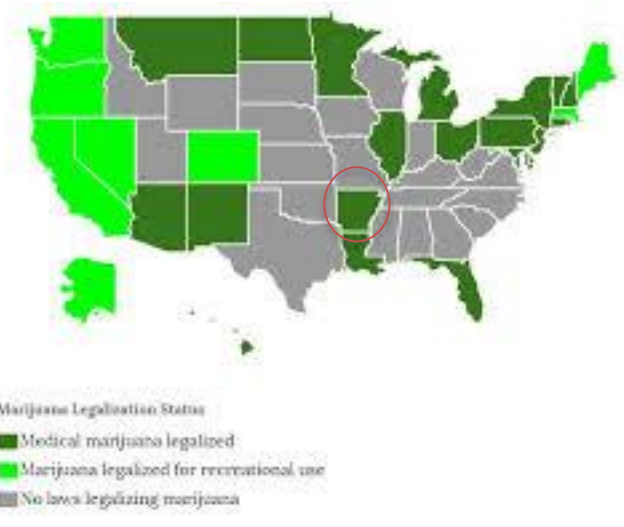
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INTRODUCTION

- Cannabis (from Cannabis sativa) is widely available worldwide and its illicit use is prominent in developed countries.
- Arkansas is one of 30 states in the US that has legalized use of the marijuana plant for medicinal purposes. The constitutional amendment (Medical Marijuana Amendment, Issue 6) was approved on November 6, 2016, legalizing marijuana use in the state of Arkansas for 18 medical conditions and disease states but lawful products are not yet available in the market.



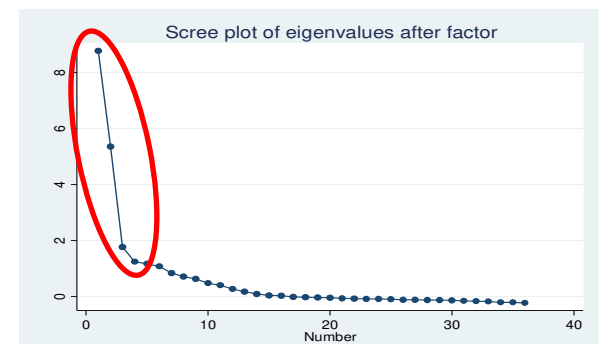
The study aims to evaluate quality of life (QOL) of self-reported marijuana users and identify factors related to current use of marijuana in AR community prior to legally available MM product.

METHODS

- This cross-sectional study was conducted using an online survey in early 2018.
- The survey included demographics and a battery of assessments, selected by a consensus of multidisciplinary experts to capture health conditions, perceived health problems, QOL, and marijuana use.
- Participants were recruited through the ARresearch registry, social media, and a flyer posted at head shops across AR.
- Participants were asked if they had ever used marijuana in their lifetime.
 - Ones who reported using marijuana in the past month were categorized as current users.
 - Others who reported last used in over a month were categorized as non-current users.
- QOL was assessed using the SF-36v1 and reported as least square means (LSM) for PCS36 and MCS36, adjusted by demographics and number of health conditions (NCC).
- Marijuana motives were measured using the Comprehensive Marijuana Motives Questionnaire (CMMQ). The CMMQ has 36 items and each item has five response options, which range from 1=almost never/never to 5=almost always/always.
- A structural equation modeling (SEM) was conducted to identify factors associated with current marijuana use.

RESULTS

- Out of 983 who reported ever using marijuana, 47.8% were current users.
- Current users were younger than non-current user (mean=42.6 vs. 47.6 years, $p < .001$).
- PCS36 of current users were 2.1 points lower than non-current users (LSM=41.5 vs. 43.4, $p = .091$) but MCS36 were 2.2 points higher in the current user group (LSM=44.4 vs. 42.2, $p = .049$).
- Factor analysis revealed 3 factors including enjoyment, social, and health benefit for the CMMQ. NCC, the CMMQ-enjoyment, and CMMQ-health benefit were positively associated with currently using marijuana (Fig 1).
- The CMMQ-social and age was negatively associated with current use.



Exploratory and confirmatory factor analyses of the CMMQ in this sample (n=983)

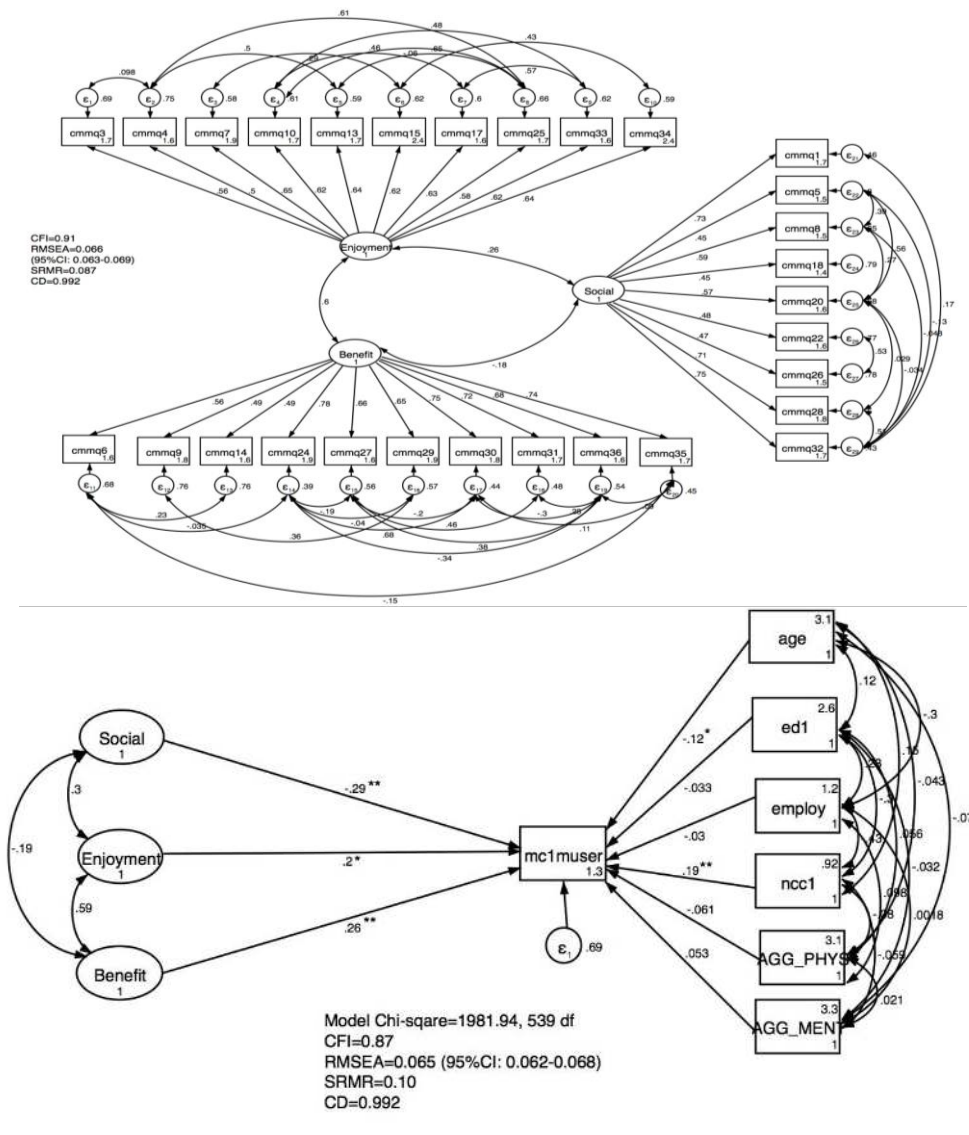


Figure 1. Standardized estimates of factors associated with marijuana use within 1-month period. * $p < 0.01$; ** $p < 0.001$. mc1muser=self-reported marijuana used within 1-month period; ed1=education; employ=employment (employed vs. unemployed); ncc1=number of chronic conditions (0, 1, >1); AGG_PHYS=physical health (PCS36); AGG_MENT=mental health (MCS36)

Table 1. Demographic characteristics of participants (n=983)

	n	Mean (SD) or %
age	982	45.2 (14.2)
male	977	32%
white	911	100%
Education		
High school or lower	101	20.7%
Some college	223	45.7%
Bachelor degree	99	20.3%
graduate school/profession degree	65	13.3%
Annual household income		
<\$20K	241	24.7%
\$20K to <\$50K	323	33.1%
>=\$50K	411	42.2%

Table 2. Self-reported adverse effects among marijuana users (ever used).

Reported ADR	Frequency	%
Anxiety	35	24.8%
Munchies	18	12.8%
Dry mouth	18	12.8%
Drowsiness/vertigo	10	7.1%
Eyes heavy/sleepy	9	6.4%
Nausea/vomit	9	6.4%
Headache/migraine	8	5.7%
Others: Dry eyes/allergic action/BP drop/constipation/diarrhea/loss appetite/cold-shivering/giggles	8	5.7%
Black out/out of body/memory loss	5	3.5%
Hangover	4	2.8%
Coughing/sore throat	4	2.8%
Rapid heartbeat/heart palpitation	3	2.1%
Unorganized in thinking/time disrupted	3	2.1%
Hallucinogenic/tunnel vision	3	2.1%
Pain	2	1.4%
Sinus infection/trouble breathing	2	1.4%
Total reported symptoms	141	
Total reported participants	128	

Table 2. Frequency of approved conditions reported among potential MM cardholders

Pain	34.2%
Arthritis	25.4%
Fibromyalgia	20.9%
Peripheral neuropathy	16.3%
Spasms	14.5%
Nausea	12.9%
Cancer	6.2%
Glaucoma	4.1%
Seizure	3.3%
Ulcerative colitis	3.2%
Crohn's disease	2.3%
Hepatitis	1.6%
HIV	1.0%
Tourette	0.6%
Cachexia	0.4%
Alzheimer	0.3%
ALS	0.0%

CONCLUSIONS

- Not only did current users enjoy marijuana, they also used it for health benefits.
- Clinical research on therapeutic benefits of marijuana is very limited in the U.S. due to its Schedule I status in the Controlled Substances Act.
- A longitudinal study to evaluate health benefits of marijuana is warranted.